For the Family:

•Monthly support group
•Monthly park play day
•Hands-on workshops
•Parenting support
•Respite sharing
•Referrals
•Video & audio tapes
•Books and handouts
•Interactive networking
•Individual consultation
•Field trips in community
•School advocacy

For the Professional:

- Seminars
- Consultation
- Printed materials
- Videotapes

For the Student:

- Brochures for presentations
- Research references
- Handouts for students

For the Community:

- Lending library
- Videotape reviews
- Prevention Workshops
- Intervention Strategy Workshops
- School programs
- Teacher support
- Newspaper reprints
- Awareness Day September 9th
- Internet web page

FAS Community Resource Center Mission Statement

The mission of the FAS Community Resource Center is to improve the well being of the persons and families in the Tucson, AZ area who are challenged by alcohol related birth defects by providing education, information, and support which will empower individuals to succeed in life, encourage families to thrive in a healthy environment, and to spread understanding throughout the community about the special needs of persons affected by prenatal exposure to alcohol.

The FAS Community Resource Center is also committed to educating the community about the dangers of drinking alcohol during pregnancy in an effort to minimize the damaging effects of prenatal exposure to alcohol to promote a healthier community where babies can be born free from the devastating effects of alcohol.

"Unlike many birth defects which are identified at birth and often treated surgically, FAS and FAE are usually over-looked at birth and treated later by mental health specialists - often unknowingly." *--Ann Streissguth, PhD*

FAS Community Resource Center

4710 E. 29th Street
ATPT Building #7
Tucson, AZ 85711

Teresa Kellerman, Coordinator
(520) 296-9172
tkellerman@mindspring.com
http://fasstar.com

Providing prevention and intervention information to educators and providers in the community, support and advocacy to families and individuals coping with alcohol related birth defects: Fetal Alcohol Syndrome (FAS), Fetal Alcohol Effects (FAE), and Alcohol Related Neurodevelopmental Disorder (ARND).

www.fasstar.com
www.fasarizona.com

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What is FAS?

FAS or Fetal Alcohol Syndrome is a group of birth defects resulting from a mother drinking alcohol during pregnancy.

Babies with FAS may be small at birth and may have sustained damage to the central nervous system resulting in developmental delays, learning disabilities, lower IQ, and have behavior and mental health problems which continue into adulthood. Most persons with FAS require support services.

What is FAE?

FAE or Fetal Alcohol Effects refers to some but not all of the symptoms of FAS. Children with FAE may appear to be normal physically, and may have normal IQ, but still sustain permanent damage to the central nervous system that results in learning disabilities and behavior difficulties.

Children with FAS and FAE may be hyperactive, have poor attention span, difficulty learning from consequences, poor judgment, inability to control their impulses, are at risk for problems in school, employment, and alcohol/drug abuse, and are susceptible to physical and sexual abuse. Due to neurological impairment, they require a structured, stable environment with consistent supervision and cuing throughout life.

"Statistics on FAS/E only reflect the more extreme end of the spectrum. Most of the damage goes undiagnosed, but not unpunished." - *Bruce Ritchie, Fetal Alcohol Support Network*

FAS/E - the Facts

- FAS is the leading known cause of mental retardation in the U.S. (Journal of American Medical Association).
- Most people with FAS have "normal" IQ but have serious behavior problems
- Estimated incidence of FAS is now 2-3 per 1,000 live births (Center on Addiction & Substance Abuse,1996)
- 20% of women drink during pregnancy (Center on Addiction Substance Abuse).
- Alcohol causes more serious neurological damage to the unborn baby than all illicit drugs, including cocaine, heroin and marijuana (Institute of Medicine).
- Each year 5,000 U.S. babies are born with FAS. As many as 50,000 babies are born with FAE (March of Dimes)
- The cost of caring for one child with FAS is $1.4 million over the child's lifetime. The cost to U.S. taxpayers for FAS is $321 million each year.
- There is no safe level of drinking during pregnancy (US Atty General)
- Even one-two drinks/day can cause decreased birth weight, growth abnormalities & behavior problems (Alcohol Problems in Women,1984).
- Risk of FAS in alcoholics: 35%
  Risk of FAS from social drinking:10%
  Risk of FAE from any drinking: ?
- FAS has no cure.
  FAS lasts a lifetime.
  FAS is 100% preventable.

FAS Resources

Fantastic Antone Succeeds! Kleinfeld, J.M., Wescott, S. (Eds.), 1993, U. of Alaska Press, (907)474-6389.

Fantastic Antone Grows Up. Kleinfeld, J.M., Wescott, S. (Eds.), 1993, U. of Alaska Press, (907) 474-6389.

Fetal Alcohol Syndrome/Fetal Alcohol Effects: Strategies for Professionals by Diane Malbin, Hazelden, 800-328-9000.

Understanding the Occurrence of Secondary Disabilities in Clients with FAS and FAE, Final Report 1996, Ann Streissguth et al, U of WA, FADU, Seattle, WA (206)543-7155.

Fetal Alcohol Syndrome, A Guide for Families and Communities, Streissguth 1997, $22.95, ISBN 1-55766-283-5

National Organization on Fetal Alcohol Syndrome (NOFAS), (800)66-NOFAS.

Family Empowerment Network, Madison, WI (800)462-5254.

The Arc: www.thearc.org
Arizona toll-free: (800)252-9054.

Arizona Center for Disability Law
Tucson: (520) 327-9547
Phoenix: (602) 274-6287
Statewide: (800) 927-2260

Fasstar Enterprises
Tucson, AZ (520) 296-9172
Internet: www.fasstar.com

FAS Arizona:
www.fasarizona.com

FAS and the Brain

By Teresa Kellerman
www.fasstar.com

Alcohol is a "teratogen" (substance that is toxic to the baby's developing brain). Damage can occur in various regions of the brain. The areas that might be affected depend on which areas are developing at the time the alcohol is consumed. Since the brain and the central nervous system are developing throughout the entire pregnancy, the baby's brain is always vulnerable to damage from alcohol exposure.

The regions of the brain that might be affected by prenatal alcohol exposure in terms of ability to function include:

Corpus Callosum - passes information from the left brain (rules, logic) to the right brain (impulse, feelings) and vice versa. The Corpus Callosum in an individual with Fetal Alcohol Syndrome (FAS) might be smaller than normal, and in some cases it is almost nonexistent.

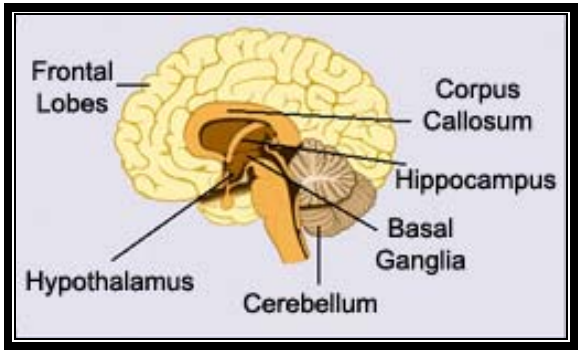
Hippocampus - plays a role in memory function.

Cerebellum - controls coordination and movement, behavior and memory.

Basal Ganglia - affects spatial memory and behaviors like perseveration and the inability to switch modes, work toward goals, and predict behavioral outcomes, and the perception of time.

Frontal Lobes - controls impulses and judgment. The most noteworthy damage to the brain probably occurs in the prefrontal cortex, which controls what are called the **Executive Functions**.

Alcohol causes more damage to the developing fetus than any other substance, including marijuana, heroin, and cocaine. (Institute of Medicine, 1996)



Executive Functions of the Prefrontal Cortex

Effects of alcohol exposure on behaviors related to executive functions of the prefrontal cortex:

- inhibitions: socially inappropriate behavior
- problem solving: inability to figure out solutions spontaneously
- sexual urges: inability to control sexual impulses, especially in social situations
- planning: inability to apply consequences from past actions
- time perception: difficulty with abstract concepts of time and money
- internal ordering: like files out of order, difficulty processing information
- working memory: storing and/or retrieving information
- self-monitoring: needs frequent cues, requires "policing" by others
- verbal self-regulation: needs to talk to self out loud, needs feedback
- motor control: fine motor skills more affected than gross motor
- regulation of emotion: moody "roller coaster" emotions, may withdraw or lash out
- motivation: apparent lack of remorse, need external motivators

Alcohol Exposure During the Three Stages of Pregnancy:

1. During the first trimester, as shown by the research of Drs. Clarren and Streissguth, alcohol interferes with the migration and organization of brain cells. [Journal of Pediatrics, 92(1):64-67]
2. Heavy drinking during the second trimester, particularly from the 10th to 20th week after conception, seems to cause more clinical features of FAS than at other times during pregnancy, according to a study in England. [Early-Human-Development; 1983 Jul Vol. 8(2) 99-111]
3. During the third trimester, according to Dr. Claire D. Coles, the hippocampus is greatly affected, which leads to problems with encoding visual and auditory information (reading and math). [Neurotoxicology And Teratology, 13:357-367, 1991]

Not all damage from alcohol exposure is seen on brain scans, as lesions might be too small to be detected, yet large enough to cause significant disabilities.

Children do not need to have full FAS to have significant difficulties due to prenatal exposure to alcohol. According to research done by Drs. Joanne L. Gusella and P.A. Fried, even light drinking (average one-quarter ounce of absolute alcohol daily) can have adverse affects on the child's verbal language and comprehension skills. [Neurobehavioral Toxicology and Teratology, Vol. 6:13-17, 1984] Drs. Mattson and Riley in San Diego have conducted research on the neurology of prenatal exposure to alcohol. Their studies show that children of mothers who drank but who do not have a diagnosis of FAS have many of the same neurological abnormalities as children who have been diagnosed with full FAS. [Neurotoxicology and Teratology, Vol. 16(3):283-289, 1994]

Damage to the brain from alcohol exposure can have an adverse affect on behavior. Alcohol exposure appears to damage some parts of the brain, while leaving other parts unaffected. Some children exposed to alcohol will have neurological problems in just a few brain areas. Other exposed children may have problems in several brain areas. The brain dysfunction is expressed in the form of inappropriate behaviors. Their behavior problems should be viewed with respect to neurological dysfunction. Although psychological factors such as abuse and neglect can exacerbate behavior problems in FAS, we are looking primarily at behavior that is organic in origin. When it comes to maintaining good behavior, it is not a matter of the child "won't" but "can't."(Diane Malbin, MSW, Trying Differently Rather Than Harder,)

Sometimes the person's behavior is misinterpreted as willful misconduct (Debra Evensen, www.fasalaska.com), but for the most part, maintaining good behavior is outside of the child's control, especially in stressful or stimulating situations. Behavior problems in children with FAS are often blamed on poor parenting skills. While good parenting skills are required, even alcohol exposed children raised in stable, healthy homes can exhibit unruly behavior. The most difficult behaviors are seen in children who were prenatally exposed to alcohol and who also suffer from Reactive Attachment Disorder.

Most children with FAS disorders have some attachment issues, may display inappropriate sexual behaviors, show poor judgment, have difficulty controlling their impulses, are emotionally immature, and need frequent reminders of rules. As a result, many will require the protection of close supervision for the rest of their lives.

"Impulsivity is when the space between the thought and the action is missing, where the frontal lobes monitor the intentions of the rest of the brain. There is a gap in the thought process and the person goes directly from thought to action." FAS expert Dr. Susan Doctor, University of Nevada, Reno.

"Soft Signs"

(Psychological signs of brain damage)

- Immature social development: overly friendly to strangers
- Emotional lability:
- Poorly developed conscience:
- Lack of consistent impulse control:
- Inability to learn from consequences
- Good expressive language skills
- Talented in art, music or mechanics.
- Attention deficits: not always hyperactive, but easily distracted by external stimuli
- Short-term memory deficits
- Inappropriate social interactions
- Difficulty managing money:
- Poor concept of time
- Grandiose ideas and unrealistic life goals, distorted perceptions
- Poor judgment
- Vulnerability and naiveté

"The greatest obstacle our children with FAS disorders must overcome is chronic frustration from not being able to meet the unrealistic expectations of others." – Dr. Calvin Sumner, nationally recognized expert on FAS.

Fetal Alcohol Syndrome
Fasstar Information Series Brochure 0109B1

FAS and the Brain

Brain of normal baby Brain of a baby with FAS

How Prenatal Alcohol Exposure Affects Development of the Brain

By Teresa Kellerman

Fasstar Enterprises
Fetal Alcohol Syndrome: Support, Training, Advocacy, & Resources

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